

Metric and Scale Effects in Willingness to Pay for Environmental Benefits

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Abstract

The present study investigates how the framing of information on the environmental impact of vehicles affects consumers' preferences for identical improvements in car quality. In online choice experiments, the effects of two metrics (fuel consumption vs. CO₂ emissions) and three scales of one metric (CO₂ in kg/km vs. g/km vs. g/100 km) are examined. First, from a technical perspective, fuel consumption (FC) and CO₂ emissions are linearly connected by a constant factor and are thus isomorphic in describing the environmental friendliness of a car. Second, rescaling identical information should not change consumer decisions. However, as this study demonstrates, the type of information presented to consumers significantly affects consumers' valuation of environmental benefits from a reduction in FC or CO₂. The study's contribution lies in quantifying the differences in consumers' preferences for two measures of the same information that have not been previously directly compared. Additionally, the differences in the framing effects are explored for diesel and gasoline vehicles. The estimation accounts for heterogeneity in the tastes, environmental attitudes and knowledge of the respondents. The insights of this study serve to guide policy makers and car manufacturers on how to present information on car offers.